REMARKS
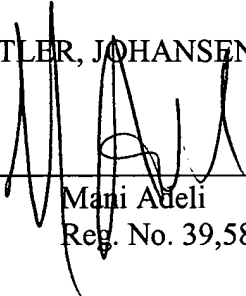
This Preliminary Amendment amends claims 27-32 and 36-41. Accordingly, after this amendment, claims 27-44 remain pending.

Respectfully submitted,

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MARKED-UP VERSION OF AMENDED CLAIMS

27.   A method of routing a plurality of nets in a region of a design layout, each net having a set of pins in the region, the method comprising:

a)   partitioning the region into several sub-regions, wherein a plurality of edges exist between said sub-regions,

b)   for each combination of a particular edge and a particular net, identifying an edge-intersect cost based on the number of potential routes for [the nets] the particular net that intersect the particular edge, wherein a potential route for a particular net traverses the set of sub-regions that contain the particular net's set of pins; and

c)   selecting routes for nets based on the computed edge-intersect costs.

28.   The method of claim 27, wherein the cost for each combination of a particular edge and a particular net equals the number of potential routes of the particular net that intersect the particular edge.

29.   The method of claim 27, wherein identifying the cost for each combination of a particular edge and a particular net comprises:

identifying an edge-intersect probability [for each particular edge, wherein

the edge-intersect probability for each particular edge] that equals the number of potential routes of the particular net that intersect the particular edge divided by the number of potential routes of the particular net.

30.   The method of claim 29, wherein the cost for each combination of a particular edge and a particular net equals the edge-intersect probability for the [particular edge] combination.

31.   The method of claim 29, wherein identifying the cost for each combination of a particular edge and a particular net further comprises:

deriving the cost for [each particular edge] the combination from the edge-intersect probability for the [particular edge] combination.

32.   The method of claim 27, wherein selecting a route for each net comprises:

a)   using the edge-intersect costs to predict congestion of the edges;

b)   based on the predicted congestion, selecting routes for nets.

36.   A method of routing a plurality of nets in a region of a design layout, each net having a set of pins in the region, the method comprising:

a)   partitioning the region into several sub-regions, wherein a plurality of paths exist between said sub-regions,

b)   for each combination of a particular path and a particular net,

identifying a path-use cost based on the number of potential routes [for the nets] of the particular net that use the particular path, wherein a potential route for a particular net traverses the set of sub-regions that contain the particular net's set of pins; and

c)   selecting routes for the nets based on the computed path-use costs.

37.   The method of claim 36, wherein the cost for each combination of a particular path and a particular net equals the number of potential routes of the particular net that use the particular path.

38.   The method of claim 36, wherein identifying the cost for each combination of a particular path and a particular net comprises:

identifying a path-use probability [for each particular path, wherein the path-use probability for each particular path] that equals the number of potential routes of the particular net that use the particular path divided by the number of potential routes of the particular net.

39.   The method of claim 38, wherein the cost for each combination [particular path] equals the path-use probability for the [particular path] combination.

40.   The method of claim 38, wherein identifying the cost for each combination of a particular path and a particular net further comprises:

deriving the cost for [each] the particular path from the path-use probability for the particular path.

41.   The method of claim 36, wherein selecting a route for each net comprises:

a)   using the path-use costs to predict congestion of the paths;

b)   based on the predicted congestion, selecting routes for nets.